

## LESSON 4

### Key Questions

Depending on the length of time given to this lesson, the first few questions give the students a chance to speculate as to what will happen when they gather their clam containers. The answers here represent a description of some scenarios that have been documented in similar studies and may/may not accurately describe what the students find this time.

➤ What can we expect?

We can expect many varying results. Many clams will not have survived, but many clams will have survived and grown. Some clam containers will have no clams in them. In others, wild clams may be found. Predators, such as green crabs, moon snails, and worms, may also have entered the containers. Netted containers show a higher survival rate based on other studies.

➤ Will we find all of the clam containers?

We hope we will but there are many reasons why we might not. Severe weather or erosion could have caused containers to move. Humans could have moved them. Usually containers are found, but they may have moved out of place.

The Instructor is encouraged to insert an extension activity here or in the future on coastal erosion as a result of storm events.

➤ Will the nets be on all of the containers?

We do not know, but most of them have remained covered in other field experiments

➤ Will the containers be in the same place as we planted them?

We do not know, but most of them have been in other field experiments

➤ Will we find all of the containers from the upper tidal zone? the middle tidal zone? the lower tidal zone?

We do not know, but most of them have been recovered in other field experiments.

➤ Will the clams from one area look the same as those from another area?

We do not know, some growth rates may be similar; others may be more or less.

➤ Will the clams still be in the containers?

This will depend upon the survival rate for that container

➤ Will the clams be alive?

Some containers were empty, some containers had live clams and bits of shell, and some containers had whole half shells with a drill hole

- What else (other organisms) will be in the containers?

Green crabs, marine worms, and moon snails were found in the containers.

- What did we find in the clam containers from the upper tidal zone? Why?
- What did we find in the clam containers from the middle tidal zone? Why?
- What did we find in the clam containers from the lower tidal zone? Why?

The students will find and document what is in each container. They may see some changes at the upper tidal zone because those containers are exposed more than the other two zones. They may see more growth in the containers at the low.

- Does our research point us to any general conclusions or statements from our plant containers?
- Usually, the clams in netted containers have a better survival rate regardless of what level they are at unless a predator got into the container. Clams at the low tide mark could show more growth, but they do not always. It seems that if they can survive, they will grow regardless of where they are on the level, but the resources of food for them can be different from area to area. Each tidal area is different concerning growth and survival, and the two statements are generalities under normal conditions.